

ABSTRACT :

AIM : To study the effectiveness of different Matrix metalloproteinase inhibitors on the microtensile bond strength of self etch adhesive (Clearfil SE Bond) over 7 days, 30 days and 90 days.

MATERIALS AND METHODS : Sound extracted molar teeth were included in the study and were randomly divided into 4 groups. A flat mid coronal dentin surface were prepared using a diamond disc. In group 1 (Clearfil SE Bond) and group 4 (Clearfil SE Protect – Fluoride containing adhesive) was applied and cured for 20 seconds. In group 2 and group 3 , 0.5% Green tea extract and 6.5% Grape seed extract were prepared and rubbed over dentin surface for 60 seconds. Over pretreated surface ,bonding agent was applied and cured. Finally composite build up was done and cured. They were mounted on acrylic blocks and dentin beams of 1.0 mm² were obtained. 10 dentin sticks per group were stored in water and bond strength were tested using Universal testing machine on 7 days, 30 days and 90 days.

RESULTS : There was a significant increase in bond strength after 30 and 90 days comparing to 7 days. Among the groups , Grape seed extract had shown increase in bond strength followed by Clearfil SE Protect, Green tea extract and Clearfil SE Bond.

CONCLUSION : Pretreatment with Grape seed extract can provide better bond strength but requires additional clinical step. Clearfil SE Protect had shown better bond strength and durability than Clearfil SE bond and Green tea extract .

KEY WORDS : Matrix metalloproteinase inhibitors , green tea extract , grape seed extract , sodium fluoride, microtensile bond strength